

Novelties in Orchidaceae from the State of Santa Catarina, Brazil^a

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Abstract

Five new records of Orchidaceae for the State of Santa Catarina, Brazil are presented: *Brasilidium crispum* (Loddiges) Campacci, *Cyclopogon subalpestris* Schlechter, *Eltroplectris calcarata* (O.Swartz) Garay & H.R.Sweet, *Eurystyles lobata* Chiron & V.P.Castro and *Pabstiella uniflora* (Lindley) Luer. Descriptions, illustrations and distribution data are provided.

Résumé

Nouvelles espèces d'Orchidaceae pour l'État de Santa Catarina, Brésil – Nous présentons dans cet article cinq nouveaux enregistrements d'Orchidaceae pour l'État de Santa Catarina, Brésil : *Brasilidium crispum*, *Cyclopogon subalpestris*, *Eltroplectris calcarata*, *Eurystyles lobata* et *Pabstiella uniflora*. Pour chaque espèce, une brève description, accompagnée d'une illustration, et des données sur sa distribution géographique sont proposées.

Introduction

The Orchidaceae family consists of approximately 25,000 species (Dressler, 2005) distributed in almost 750 genera (Chase *et al.*, 2015). Orchidaceae has a worldwide distribution, being absent only in regions that are always covered by snow and extreme deserts, but it is more abundant and diverse

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in humid tropical and subtropical forests. Brazil has about 2,500 species of orchids, of which 533 are represented in Santa Catarina (Barros *et al.*, 2016). However, there are few studies with Orchidaceae for the State of Santa Catarina (Favretto & Geuster, 2011; Reis *et al.*, 2011; Siqueira *et al.*, 2014), and the most important research conducted was 40-60 years ago, only in the State capital Florianópolis and in the Itajaí Valley (Rohr, 1951; Klein *et al.*, 1978; Klein, 1979).

During fieldwork, we found five species that, to date, have not been formally cited for the orchid flora of Santa Catarina (Barros *et al.*, 2016). The aim of this paper is thus to present descriptions, illustrations, diagnostic characters and distribution data for these taxa. Vouchers were deposited in the herbarium of the “Universidade Regional de Blumenau” (FURB; acronym according to Thiers, 2016). In this paper, we adopted the delimitation of genera and species proposed by Barros *et al.* (2016). These new records will be added later in the field inventory of Orchidaceae in the State of Santa Catarina (Nascimento *et al.*, *in prep.*).

Taxonomic descriptions

1. *Brasiliidium crispum* (Loddiges) Campacci, *Coletânea de Orquídeas Brasileiras* 3: 78. 2006. Fig. 1.

Homotypic synonyms: *Oncidium crispum* Loddiges, *Anettea crispa* (Loddiges) Szlachetko & Mytnik.

Heterotypic synonyms: *Oncidium imperatoris-maximiliani* Reichenbach f., *Gomesa imperatoris-maximiliani* (Reichenbach f.) M.W.Chase & N.H.Williams, *Anettea imperatoris-maximiliani* (Reichenbach f.) Szlachetko & Mytnik.

Oncidium brunnipetalum Barbosa Rodrigues, *Ampliglossum brunnipetalum* (Barbosa Rodrigues) Campacci, *Coppensia brunnipetala* (Barbosa Rodrigues) Campacci, *Gomesa brunnipetala* (Barbosa Rodrigues) M.W.Chase & N.H.Williams.

Epiphytic herb; rhizome short; pseudobulb 3-5 × ca. 2 cm, ovoid, laterally compressed, sulcate, apex 2-foliate, base enveloped by 2 leafy sheaths; leaves 10-18 × 3-6 cm, dark green, oblong-lanceolate, coriaceous, acute, base attenuate; inflorescence a panicle, many-flowered, peduncle ca. 65 cm long, rachis 25-40 cm long; floral bracts 2-4 mm long, triangular; flowers 4-5 cm diam., perianth segments with undulate margin; pedicel and ovary ca. 2 cm long; sepals membranaceous, dorsal sepal 22-24 × 10-14 mm, widely

elliptic, shortly emarginate, base long attenuate, lateral sepals 24-26 × 13-15 mm, coalescing to half the length, oblong-elliptic to elliptic-lanceolate, acute, base slightly attenuate; petals 20-23 × 13-15 mm, obovate, membranaceous, emarginate; labellum brown, provided with a large central yellow stain, 3-lobate, unguiculate, ambitus 30-33 × 28-30 mm, spatulate, lateral lobes ca. 2 × 2 mm, auriculiform, median lobe 13-15 × 17-22 mm, transversally elliptic, emarginate, disc sparsely verrucous, callus composed of 1 central, lamellar, deltoid callosity, flanked by 2 smaller parallel, crested callosities; column ca. 5 mm long, subclaviform, auricles ca. 3 × 4 mm, brown-vinaceous, hemielliptic, margin strongly revolute; pollinia 2, cartilaginous, with long stipe and small viscidium.

Material examined: Brazil, Santa Catarina, Benedito Novo, Lands of Mr. Ivo Werlich, 26°17'12"S, 49°24'32"W, 427 m, 07/01/2012, J.O. Caetano *s.n.* (FURB 37814).

The genus *Brasilidium* Campacci comprises 12 species, 11 of which are endemic to Brazil (Docha Neto *et al.*, 2006; Barros *et al.*, 2016). Five species of *Brasilidium* are cited for Santa Catarina: *B. concolor* (Hooker) F. Barros & V.T. Rodrigues, *B. gardneri* (Lindley) Campacci, *B. gravesianum* (Rolfe) Campacci, *B. pectorale* (Lindley) Campacci and *B. praetextum* (Reichenbach f.) Campacci (Barros *et al.*, 2016). *Brasilidium crispum* is reported here for the first time for this State.

Brasilidium crispum can be recognised by the brown labellum with a large central yellow stain and with a callus composed of one central, lamellar, deltoid callosity, flanked by two smaller parallel, crested callosities. It was collected from an isolated tree in the middle of a pasture (anthropic area).

2. *Cyclopogon subalpestris* Schlechter, *Repertorium Specierum Novarum Regni Vegetabilis*, Beihefte 35: 32. 1925. Fig. 2.

Homotypic synonym: *Beadlea subalpestris* (Schlechter) Garay.

Terrestrial herb, ca. 25 cm tall; roots ca. 5 cm long, fleshy, fusiform; leaves 8-13.5 × 3-3.5 cm, ovate-oblong, acute, base abruptly narrowed into a pseudopetiole; inflorescence ca. 20 cm long, pauciflorous, laxiflorous, peduncle coated by lanceolate sheaths; bracts ca. 10 mm long, triangular-lanceolate; flowers brown-whitish, erect-patent, fleshy; sepals subequal, dorsal sepal ca. 7 × 1 mm, erect, oblong, concave, obtuse, lateral sepals ca. 5 × 1 mm, oblanceolate, concave, obtuse; petals ca. 7 × 1 mm, oblong-

lanceolate; labellum shortly unguiculate, slightly 3-lobate, ambitus ca. 8×1.5 mm, oblong-obovate, base sagittate, flanked by 2 auricles, then abruptly contracted, disc with oblong, verrucous callus, lateral lobes truncate-obtuse; column ca. 5 mm long, short, claviform.

Material examined: Brazil, Santa Catarina, Benedito Novo, hill top in the Serra do Koprowski, $26^{\circ}46'37''S$, $49^{\circ}25'11''W$, 468 m, 22/08/2013, J.O. Caetano & C.R. Schlemper 25 (FURB).

Cyclopogon C.Presl is a Neotropical genus and has about 75 species (Salazar, 2003a) with 33 of them found in Brazil according to Barros *et al.* (2016). *Cyclopogon subalpestris* occurs in Argentina and in the State of Rio Grande do Sul, Brazil (Barros *et al.*, 2016; Govaerts *et al.*, 2016) and, in this work, is first recorded for the State of Santa Catarina.

Cyclopogon subalpestris can be identified by the brown-whitish flowers, the labellum with sagittate base, flanked by two auricles and the truncate-obtuse lateral lobes. The species was found inside the tropical rainforest.

3. *Eltroplectris calcarata* (O.Swartz) Garay & H.R.Sweet, *Journal of the Arnold Arboretum* 53(3): 390. 1972. Fig. 3.

Homotypic synonyms: *Neottia calcarata* O.Swartz, *Stenorrhynchos calcaratum* (O.Swartz) L.C.Richard, *Collea calcarata* (O.Swartz) Lindley, *Pelexia calcarata* (O.Swartz) Cogniaux, *Centrogenium calcaratum* (O.Swartz) Schlechter, *Spiranthes calcarata* (O.Swartz) Jiménez Almonte.

Heterotypic synonyms: *Eltroplectris acuminata* Rafinesque, *nom. illeg.*, *Pelexia domingensis* Lindley, *Pelexia setacea* Lindley, *Centrogenium setaceum* (Lindley) Schlechter.

Terrestrial herb, ca. 70 cm tall; roots ca. 18 cm long; leaves 2, $9-15 \times 3.5-7$ cm, elliptical to long-lanceolate, glabrous, acute, base cuneate, petiole 9-20 cm long, slender, slightly reddish; inflorescence a raceme, ca. 50 cm long, 3-11-flowered; floral bracts 4-7 cm long, lanceolate, glabrous, acuminate; flowers greenish-white, erect-patent; pedicel and ovary 1.5-1.7 cm long; sepals $21-30 \times 6-7$ mm, linear-lanceolate, aristate and long-acuminate; petals $19-21 \times$ ca. 3 mm, linear, falcate, acuminate; labellum ca. 20 mm long, lanceolate, clawed, the claw ca. 5 mm long, median lobe linear-triangular, acuminate, margin fimbriate; column 8-10 mm long, semi-erect; fruit a capsule, 18-25 mm long.

Material examined: Brazil, Santa Catarina, Florianópolis, Reserva Particular de Patrimônio Natural Morro das Aranhas, 27°27'56"S, 48°23'13"W, 13 m, 22/06/2013, J.O. Caetano & C. Couto 39 (FURB).

Eltroplectris Rafinesque is a genus of twelve species distributed in the United States (Florida), the Antilles, Suriname, Venezuela, Bolivia, Colombia, Ecuador, Peru, Brazil, Paraguay, and Argentina (Salazar, 2003b; Govaerts *et al.*, 2016). Barros *et al.* (2016) cite nine species for Brazil. This is the first record of *E. calcarata* for the State of Santa Catarina.

This species can be easily recognized by the aristate, long-acuminate sepals and the fimbriate margin of the labellum. It was found in a shadow area of the *restinga*, a coastal forest vegetation in the seaside lowlands of Brazil.

4. *Eurystyles lobata* Chiron & V.P.Castro, *Richardiana* 7(1): 9. 2007 ("2006"). Fig. 4.

Epiphytic herb; roots ca. 1 cm long, linear-cylindrical; leaves 3, ca. 5 × 2 cm, in a basal rosette, oblong-elliptic to oblong-lanceolate, acute, base attenuate, margin undulate, petiole 9-12 cm long, channelled; inflorescence capitate, pendulous, densely pubescent, about as long as the longest leaves, peduncle ca. 7 cm long; floral bracts ca. 12 mm long, larger than the flowers, subtriangular, concave, acute, margin ciliate; flowers 4, white with orange or reddish base, tubular, patent; pedicel and ovary ca. 3 mm long; sepals erect, externally pubescent, dorsal sepal ca. 8 × 3 mm, triangular-lanceolate, apex rounded, lateral sepal ca. 9 × 2 mm, oblong-elliptic, acute; petals ca 7 × 1.5 mm, erect, narrowly oblong-spatulate, slightly falciform, apex broadly rounded, base attenuate, margin ciliate-pubescent; labellum erect, concave, 3-lobed, median lobe ca. 8 × 3 mm, sagittate-oblong, fused at base to the lateral sepals, unguiculate, apex rounded, lateral lobes ca. 1 mm diam., semi-circular, callus with 4 longitudinal, digitiform keels; column ca. 5 mm long, base extended into a column foot; rostellum triangular; pollinia 2, clavate.

Material examined: Brazil, Santa Catarina, Rio do Sul, Bairro Bela Aliança, Lands of Mr. Raimundo Gals, 460 m, 21/09/2014, J.O. Caetano & C.R. Schlemper 80 (FURB).

Eurystyles Wawra is a genus of about 16 species distributed from Mexico to South America (Salazar, 2003c), with 11 species native to Brazil (Barros *et al.*, 2016). *Eurystyles lobata* was hitherto only known from the type locality in the State of Rio de Janeiro and has now been found in Santa Catarina.

The species is recognized by the undulate margin of the leaves, the white flowers with orange or reddish stains, the rounded apex of the sepals, and the trilobed labellum. It was found growing on a moss-covered branch in a riparian forest.

5. *Pabstiella uniflora* (Lindley) Luer, *Monographs in Systematic Botany from the Missouri Botanical Garden* 112: 121. 2007. Fig. 5.

Homotypic synonyms: *Pleurothallis uniflora* Lindley, *Humboldtia uniflora* (Lindley) Kuntze, *Specklinia uniflora* (Lindley) Pridgeon & M.W.Chase.

Heterotypic synonyms: *Pleurothallis leontoglossa* Reichenbach f., *Humboldtia leontoglossa* (Reichenbach f.) Kuntze, *Specklinia leontoglossa* (Reichenbach f.) Luer.

Lepanthes punctata Barbosa Rodrigues, *Pleurothallis guttulata* Cogniaux, *Pabstiella punctata* (Barbosa Rodrigues) Luer & Toscano.

Lepanthes striata Barbosa Rodrigues, *Pleurothallis striata* (Barbosa Rodrigues) Cogniaux.

Lepanthes umbrosa Barbosa Rodrigues, *Pleurothallis umbrosa* (Barbosa Rodrigues) Cogniaux

Epiphytic herb, cespitose; rhizome inconspicuous; caulome 0.8-1.5 cm long, cylindrical, caulome sheaths 3-4 mm long, tubulous; leaf 5-7 × 0.5-0.7 cm, dark green, lanceolate, coriaceous, canaliculate, acute, base abruptly narrowed; inflorescence 1-flowered, peduncle 2-3 cm long; bract ca. 1 mm long, tubulous, acute; flowers ca. 6 × 3 mm, yellow with dark purple stains; sepals yellow, dorsal sepal ca. 6 × 3 mm, oblong-lanceolate, acute, lateral sepals ca. 6 × 5 mm, lanceolate, coalescing up near the apex in synsepal, acute; petals ca. 3 × 2 mm, yellow, obovate-spatulate, acute; labellum ca. 4 × 2 mm, dark purple, entire, spatulate, fleshy, acute; column ca. 4 × 2 mm, claviform; pollinia 2, yellow.

Material examined: Brazil, Santa Catarina, Benedito Novo, next to the PCH CEESAM Alto Benedito, 25/04/2013, J.O. Caetano 11 (FURB).

The Neotropical genus *Pabstiella* Brieger & Senghas comprises from six to over 100 species, according to the delimitation proposed by the various authors (Pridgeon, 2005; Luer, 2007; Barros *et al.*, 2016; Govaerts *et al.*, 2016). Barros *et al.* (2016) list 107 species to Brazil and 25 for the State of Santa Catarina. *Pabstiella uniflora* occurs in French Guiana, Suriname, Guyana, Venezuela and Brazil (Amapá, Pará, Rondônia, Bahia, Minas

Gerais, Rio de Janeiro, São Paulo and Paraná) (Barros *et al.*, 2016; Govaerts *et al.*, 2016). In this paper, we record for the first time its occurrence for Santa Catarina.

Pabstiella uniflora can be recognised by the one-flowered inflorescence, its yellow flowers with dark purple stains, the oblong-lanceolate dorsal sepal, and the spatulate labellum. This species was found inside the Brazilian Atlantic Forest.



Fig. 1-3

Brasiliidium crispum [1]. *Cyclopogon subalpestris* [2]. *Eltroplectris calcarata* [3]
(ph. J.O.Caetano [1 & 2] and C.Couto [3])



Fig. 4 & 5

Eurystyles lobata [4]. *Pabstiella uniflora* [5]
(ph. J.O.Caetano)

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